

## ABSTRACT

A system is provided to enable maintaining cell viability in a microfluidic device and for monitoring an activity of a cell in a microfluidic device. The microfluidic device may include a cell duct plate, a flow channel plate, a porous membrane bounding at least a portion of each of the cell duct and the flow channel plate. The system may include, in addition to the microfluidic device, a pump, a controller, and a sensor.

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